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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,590	06/16/2006	Sei-ichi Onoue	UNI94.001APC	8151

20995 7590 07/24/2007  
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EXAMINER
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REDDY, KARUNA P

ART UNIT	PAPER NUMBER
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1713

NOTIFICATION DATE	DELIVERY MODE
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07/24/2007

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com  
eOAPilot@kmob.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/596,590	<b>Applicant(s)</b> ONOU ET AL.	
	<b>Examiner</b> Karuna P. Reddy	<b>Art Unit</b> 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 9-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/19/2006</u> | 6) <input type="checkbox"/> Other: ____  |

### **DETAILED ACTION**

1. Claims 1-19 are currently pending in the application. Claims 1-8 are drawn to elected group I. Claims 9-19 drawn to non-elected group II are withdrawn from further consideration.

### ***Election/Restrictions***

2. Applicant's election of claims 1-8 without traverse in the reply filed on June 27, 2007 is acknowledged.

The requirement is deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Storow et al (US 3, 069, 375).

Storow et al disclose improved aqueous dispersion acrylic copolymer coating composition (column 1, lines 14-15). The polymerization process includes forming a homogeneous dispersion comprising water and a mixture of alpha ethylenically unsaturated monomers in the presence of colloidal silica present as an alkali-stabilized silica aquasol in an amount of at least 0.1% of silica based on the weight of polymerizable monomers (column 1-17). Silica

aquasols are aqueous sols of alkali-stabilized colloidal silica wherein the approximate particle size of the colloidal silica is from 5 millimicrons to 150 millimicrons (column 3, lines 4-7). Alkali present in the silica aquasol in stabilizing proportions for the colloidal silica ordinarily provides a pH from about 8 to about 10 (column 3, lines 43-46). At completion of the polymerization, resulting acidic dispersion having a pH of less than 4 is neutralized to a pH of from 5.5 to 6. The filtered aqueous dispersion is then further ammoniacally neutralized up to pH 8 (column 6, lines 46-64).

Therefore, Storow et al anticipate the instant invention.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Storrow et al (US 3, 069, 375) in view of Kano (US 5, 891, 948).

The discussion with respect to Storrow et al in paragraph 4 is incorporated herein by reference..

The prior art is silent with respect to aggregate, size of the aggregate and its amount relative to the resin emulsion.

However, Kano teaches coating material comprising acrylic resin latex (column 7, lines 18-19) to which is added natural aggregates such as lime rock, silica sand and mica classified by the particle diameter (column 7, lines 25-28) to obtain a finish very close to a pattern of natural granite (column 4, lines 41-43). The natural or artificial multi-color aggregates have a particle diameter of 5 mm or less (column 1, lines 25-28). See table (column 10, lines 40-62) for wt% of resin and aggregates in the coating composition. Therefore, it would have been obvious to one skilled in the art at the time invention was made to add aggregates in the coating composition of Kano to the coating composition of Storrow et al to obtain a finish very close to natural granite.

8. Claim 3 and 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Storrow et al (US 3, 069, 375) in view of Kano (US 5, 891, 948) and Gagliardi et al (US 5, 961, 674) and Swarup et al (US 5, 506, 325).

The discussion with respect to Storrow et al in paragraph 4 is incorporated herein by reference.

The prior art is silent with reference to component C, D, E, their amounts in relation to solids content of the resin emulsion and hydrophobation.

However, Storow et al contemplate addition of fillers, pigments, other adjuvants (column 8, line 28) and reads on the extender pigment, color pigment and any other adjuvant that is used in coating composition and reads on aggregates of claim 3.

Gagliardi et al teach addition of filler in an amount of 40 to 70% to increase toughness and hardness of a binder used for coating and/or reduce the cost of finished article (column 1, lines 60-65).

Swarup et al teach colloidal silica which has been partially or totally surface modified through the silanization of hydroxyl groups on the silica particle, thereby rendering the surface hydrophobic. The hydrophobation of silica is well known in the art of coating compositions and provides stability by preventing aggregation<sup>1</sup>. The silica dispersed in copolymer may be added to the coating composition at any time during formulation as a rheology control additive (column 6, lines 1-16). The colored film-forming composition can be any composition useful in coating applications. The film forming composition comprises a resinous binder and a pigment to act as a colorant. Particularly useful resinous binders are acrylic polymers (column 6, lines 25-26). The colored film-forming compositions of the present invention may contain non-metallic color pigments.

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<sup>1</sup> Yamada et al (JP 02-275712 A) is included as a reference to hydrophobation of silica - provide stability by preventing aggregation.

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In general the pigment is incorporated into the coating composition in amounts of about 1 to 80% by weight based on weight of coating solids (column 7, 55-64). If desired, the colored film forming composition may contain surfactants.

Kano teaches coating material comprising acrylic resin latex (column 7, lines 18-19) to which is added natural aggregates such as lime rock, silica sand and mica classified by the particle diameter (column 7, lines 25-28) to obtain a finish very close to a pattern of natural granite (column 4, lines 41-43). The natural or artificial multi-color aggregates have a particle diameter of 5 mm or less (column 1, lines 25-28). See table (column 10, lines 40-62) for wt% of resin and aggregates in the coating composition. Therefore, it would have been obvious to one skilled in the art at the time invention was made to add the aggregates of Kano, colored film forming coating composition and pigment of Swarup and filler i.e. extender pigment of Gagliardi in the above mentioned proportions to the composition of Storow et al and subject silica sol to hydrophobation to obtain a colored coating which has a finish close to natural granites, provide stability by preventing aggregation of silica particles, exhibit increased hardness and toughness.

9. Claim 4 and 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Storow et al (US 3, 069, 375) in view of Swarup et al (US 5, 506, 325).

The prior art is silent with reference to component F in granular state and hydrophobation.

Swarup et al teach colloidal silica which has been partially or totally surface modified through the silanization of hydroxyl groups on the silica particle, thereby rendering the surface hydrophobic. The hydrophobation of silica is well known in the art of coating compositions and provides stability by preventing aggregation<sup>2</sup>. The silica dispersed in copolymer may be added to the coating composition at any time during formulation as a rheology control additive (column 6, lines 1-16). The film forming composition comprises a resinous binder. Particularly useful resinous binders are acrylic polymers (column 6, lines 25-26). If desired, the film forming composition may contain surfactants (column 8, lines 1-3). Therefore, it would have been obvious to one skilled in the art at the time invention was made to subject silica of Storrow et al to hydrophobation to provide stability to coating composition by preventing aggregation and add resinous binder as a film forming resin that contains an additive such as surfactant to stabilize the dispersion of coating composition. The combination of teachings is obvious because both references relate to coatings comprising similar components and one having ordinary skill in the art would have expected such a combination to work with a reasonable expectation of success.

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Storrow et al (US 3, 069, 375) in view of Yamada (JP 02-275712 A).

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<sup>2</sup> Yamada et al (JP 02-275712 A) is included as a reference to hydrophobation of silica - provide stability by preventing aggregation.



The discussion with respect to Storrow et al in paragraph 4 is incorporated herein by reference.

The prior art is silent with respect to hydrophobation of silica sol.

However, it is fairly common in the art to subject colloidal silica to hydrophobation. For instance, Yamada teaches preparation of organophillic i.e. hydrophobic colloidal silica sol by treating silanol groups on the surface of silica particles with hexaalkyl disilazane. This is useful for coating compositions because it provides stability to silica and prevents aggregation (abstract). Therefore, it would have been obvious to one skilled in the art at the time invention was made to subject the silica sol of Bulitt et al to hydrophobation because the skilled artisan would want to obtain a homogeneous coating as a result of minimized aggregation. The combination of teachings is obvious because both references relate to coatings, and since hydrophobation is taught in the prior art, one having ordinary skill in the art would have expected such a combination to work with a reasonable expectation of success.

11. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Storrow et al (US 3, 069, 375) in view of Kano (US 5, 891, 948) as applied to claim 2 above, and further in view of Yamada (JP 02-275712 A).

The discussion with respect to Storrow et al in view of Kano in paragraph 7 is incorporated herein by reference.

The motivation to subject silica sol to hydrophobation is provided in paragraph 10 and is incorporated herein by reference.

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**Conclusion**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karuna P. Reddy whose telephone number is (571) 272-6566.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Karuna P Reddy  
Examiner  
Art Unit 1713

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